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**Compiled By T. W. Moorehead**

**Space Science Laboratory  
Science and Engineering Directorate**

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## NASA REPORTS

### Technical Paper

1. **On the Variation of the Nimbus-7 Total Solar Irradiance.** NASA TP-3316, December 1992. Robert M. Wilson. (ES52)

### Technical Memorandum

1. **Lightning Imaging Sensor (LIS) for the Earth Observing System.** NASA TM-4350, February 1992. Hugh J. Christian, Richard J. Blakeslee, and Steven J. Goodman. (ES43)
2. **First International Microgravity Laboratory Experiment Descriptions - First Edition.** NASA TM-4353, February 1992. Teresa Y. Miller (editor). (ES76)
3. **Functional Requirements Document for NASA/MSFC Earth Science and Applications Division, Data and Information System (ESAD-DIS) Interoperability, 1992.** NASA TM-4388, June 1992. J. Briscoe Stephens and Gary W. Grider. (ES41)
4. **Functional Requirements Document for the Earth Observing System Data and Information System (EOSDIS) Scientific Computing Facilities (SCF) of the NASA/MSFC Earth Science and Applications Division, 1992.** NASA TM-4392, June 1992. Michael E. Botts, Ron J. Phillips, John V. Parker, and Patrick D. Wright. (ES43)
5. **Space Science Laboratory Publications and Presentations, January 1-December 31, 1991.** NASA TM-103566, April 1992. Compiled by Tauna W. Moorehead. (ES01)
6. **Optical Synthesizer for a Large Quadrant-Array CCD Camera - Center Director's Discretionary Fund Final Report (Project Number 90-11).** NASA TM-103571, January 1992. Mona J. Hagyard. (ES52)
7. **Atmospheric Environment for Space Shuttle *Atlantis* (STS-39) Launch.** NASA TM-103574, January 1992. G. L. Jasper and G. W. Batts. (ES44)
8. **NASA Marshall Space Flight Center Solar Observatory Report - July-December 1991.** NASA TM-103577, March 1992. James E. Smith. (ES52)
9. **Atmospheric Environment for Space Shuttle *Columbia* (STS-40) Launch.** NASA TM-103585, June 1992. G. L. Jasper and G. W. Batts. (ES44)
10. **The Effect of Induced Charges on Low-Energy Particle Trajectories Near Conducting and Semiconducting Plates.** NASA TM-105589, May 1992. Victoria N. Coffey and Thomas E. Moore. (ES53)

**NASA Technical Memorandum (concluded)**

- 11. A Study of Enhancing Critical Current Densities ( $J_c$ ) and Critical Temperature ( $T_c$ ) of High-Temperature Superconductors--Center Director's Discretionary Fund Final Report (Project 90-N26). NASA TM-103595, August 1992. Marcus Vlasse. (ES74)**
- 12. NASA Marshall Space Flight Center Solar Observatory Report - January-June 1992. NASA TM-103597, August 1992. James E. Smith. (ES52)**
- 13. Fabrication of High  $T_c$  Superconductor Thin Film Devices--Center Director's Discretionary Fund Final Report (Project No. P17). NASA TM-103600, August 1992. R. C. Sisk. (ES63)**
- 14. Atmospheric Environment for Space Shuttle Atlantis (STS-43) Launch. NASA TM-103603, September 1992. G. L. Jasper and G. W. Batts. (ES44)**
- 15. Glass Fiber Processing for the Moon/Mars Program (Center Director's Discretionary Fund Final Report). NASA TM-108379, October 1992. D. S. Tucker, E. Ethridge, and P. Curreri. (ES75)**
- 16. Study of the Glass Formation of High Temperature Superconductors - Center Director's Discretionary Fund Final Report (Project #89-04). NASA TM-108389, December 1992. Edwin C. Ethridge, William F. Kaulker, and Terry Rolin. (ES75)**

## OPEN LITERATURE

### Refereed Journal Articles

1. Analytical Estimates of Radial Segregation in Bridgman Growth from Low-Level Steady and Periodic Accelerations. *J. Crys. Growth*, 121, 751-768 (1992). R. J. Naumann and C. R. Baugher. (ES71)
2. The ATLAS-1 Shuttle Mission. *Eos*, 73(10), 105-109 (1992). Marsha R. Torr and Kathryn D. Sullivan. (ES51)
3. Atomic Structure and Chemistry of Human Serum Albumin. *Nature*, 358, 209-215 (1992). Xiao-min He and Daniel C. Carter. (ES76)
4. Bioconvective Indicators in Tetrahymena: Nickel and Copper Protection from Cadmium Poisoning. *J. Environ. Sci. & Health*, A27(2), 403-417 (1992). David A. Noever, Helen C. Matsos, and Loren L. Looger. (ES76)
5. Bursts of Transverse Ion Acceleration at Rocket Altitudes. *Geophys. Res. Lett.*, 19, 413 (1992). R. L. Arnoldy, T. E. Moore, C. J. Pollock, et al. (ES53)
6. A Case Study of Plasma Structure in the Dusk Sector Associated with Enhanced Magnetospheric Convection. *J. Geophys. Res.*, 97(A2), 1157-1166 (1992). D. L. Carpenter, A. J. Smith, B. L. Giles, C. R. Chappell, and P.M.E. Decreau. (ES53)
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9. A Comparison Between Protein Crystals Grown with Vapor Diffusion Methods in Microgravity and Protein Crystals Grown Using a Gel Liquid-Liquid Diffusion Ground-Based Method. *J. Crys. Growth*, 122, 306-309 (1992). T. Y. Miller, X.-M. He, and D. C. Carter. (ES76)
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11. A Comparison of Vector Magnetograms from the Marshall Space Flight Center and Mees Solar Observatory. *Solar Phys.*, 138, 49-68 (1992). R. S. Ronan, F. Q. Orrall, D. L. Mickey, E. A. West, M. J. Hagyard, and K. S. Balasubramaniam. (ES52)

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15. Dependence of Energy Resolution on Anode Diameter in Xenon Proportional Counters. *Nucl. Instrum. & Methods in Phys. A*, A313, 155-160 (1992). H. Sakurai and B. D. Ramsey. (ES65)
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18. An Early Estimate for the Size of Cycle 23. *Solar Phys.*, 140, 181-193 (1992). Robert M. Wilson. (ES52)
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29. **A Fully Nonlinear, Mixed Spectral and Finite Difference Model for Thermally Driven, Rotating Flows.** J. Comput. Phys., 101(2), 265-275 (1992). Timothy L. Miller, Huei-Iin Lu, and Karen A. Butler. (ES42)
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31. **Gamma Ray Observations of the Crab Pulsar - Past, Present, Future.** Annals of the New York Academy of Sciences, 655, 309-318 (1992). Gerald J. Fishman. (ES62)
32. **Gamma-Ray Bursts in the Galactic Halo.** Nature, 355, 522-524 (1992). J. J. Brainerd. (ES65)
33. **Geometrically Thin, Hot Accretion Disks: Topology of the Thermal Equilibrium Curves.** Astrophys. J., 392, 653-661 (1992). Masaaki Kusunose and Shin Mineshige. (ES65)
34. **Grain Size Reduction in Granular Flows of Spheres: The Effects of Critical Impact.** J. Appl. Mech., 59, 17 (1992). M. W. Richman and A. A. Oyediran. (ES42)
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49. **Multiple Resonant Scattering in the Compton Upscatter Model of Gamma-Ray Bursts.** Astrophys. J., 384, 545-559 (1992). J. J. Brainerd. (ES65)
50. **The N<sub>2</sub><sup>+</sup> First Negative System in the Dayglow from Spacelab 1.** J. Geophys. Res., 97(A11), 17,075-17,095 (1992). M. R. Torr, D. G. Torr, and P. G. Richards. (ES51)
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52. **A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation.** Astrophys. J. Lett., 397, L55-L58 (1992). R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, and C.-H. An. (ES52)
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59. **Pervasive Variability in the Quiet Solar Transition Region.** Astrophys. J., 398, 655-681 (1992). Douglas Rabin and James F. Dowdy, Jr. (ES52)
60. **The Polar Cap Environment of Outflowing O<sup>+</sup>.** J. Geophys. Res., 97(A6), 8361-8379 (1992). J. L. Horwitz, C. J. Pollock, T. E. Moore, et al. (ES53)

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61. **Precipitation of Ions Induced by Magnetotail Collapse.** *J. Geophys. Res.*, 97(A5), 6405-6415 (1992). D. C. Delcourt and T. E. Moore. (ES53)
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63. **Precision and Radiosonde Validation of Satellite Gridpoint Temperature Anomalies, Part II: A Tropospheric Retrieval and Trends During 1979-90.** *J. Climate*, 5(8), 860-866 (1992). R. W. Spencer and J. R. Christy. (ES43)
64. **Process Optimization for the Pb and Sb-Substituted Bi-Based 2223 Bulk Ceramic.** *Superconductivity Sci. & Technol.*, 5, 236 (1992). M. Vlasse, J. Golben, and T. Mitchell. (ES74)
65. **Properties of Quasi-Periodic Oscillations in Accreting Magnetic White Dwarfs.** *Astrophys. J.*, 397, 232-243 (1992). Kinwah Wu, G. Chanmugam, and G. Shaviv. (ES65)
66. **A Regularization Method for the Extrapolation of the Solar Potential Magnetic Fields.** *Astrophys. J.*, 392, 722 (1992). G. Allen Gary and Z. E. Musielak. (ES52)
67. **Resonant Compton Cooling and Annihilation Line Production in Gamma-Ray Bursts.** *Astrophys. J.*, 386, 308-324 (1992). Robert D. Preece and Alice K. Harding. (ES62)
68. **Scaling Laws for Buckling Instability in Monolayer Networks.** *Phys. Rev. Lett.*, 69(9), 1473-1474 (1992). David A. Noever. (ES76)
69. **Similarity Rules in Gravity Jitter-Related Spacecraft Liquid Propellant SLOSH Waves Excitation.** *J. Fluids & Structures*, 6, 493-522 (1992). R. J. Hung, C. C. Lee, and F. W. Leslie. (ES42)
70. **A Simple Correction for the Born Approximation for Electron Impact Excitation of Hydrogenic Ions.** *Astrophys. J.*, 396, 725-729 (1992). Young-Dae Jung. (ES65)
71. **Size Effects and a Failure Model for Mechanically-Stressed Protein Crystals and Aggregates.** *J. Crys. Growth*, 122, 120-135 (1992). David A. Noever. (ES76)
72. **Solar Doppler-Shift Measurements in the Ne VII 465 Å Emission Line.** *Astrophys. J.*, 401, 754-758 (1992). John T. Mariska and James F. Dowdy, Jr. (ES52)

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- 73. Spacecraft Dynamical Distribution of Fluid Stresses Activated by Gravity-Jitter-Induced Slosh Waves. J. Guidance, Control, & Dyn., 15(4), 817-824 (1992). R. J. Hung, C. C. Lee, and F. W. Leslie. (ES42)**
- 74. The Spatial Distribution of  $\gamma$ -Ray Bursts Observed by BATSE. Nature, 355(6356), 143-145 (1992). C. A. Meegan, G. J. Fishman, R. B. Wilson, W. S. Paciesas, G. N. Pendleton, J. M. Horack, M. N. Brock, and C. Kouveliotou. (ES62)**
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- 84. Synchrotron Emission from a Cosmological Jet as a Model of Gamma-Ray Bursts. Astrophys. J. Lett., 394, L33-L36 (1992). J. J. Brainerd. (ES65)**

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85. **Synthesis, Vapor Growth, Polymerization, and Characterization of Thin Films of Novel Diacetylene Derivatives of Pyrrole. The Use of Computer Modeling to Predict Chemical and Optical Properties of These Diacetylenes and Poly(diacetylenes).** J. Amer. Chem. Soc., 114, 3247-3251 (1992). M. S. Paley, D. O. Frazier, H. Abdeldayem, S. P. McManus, and S. E. Zutaut. (ES76)
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59. **Studies of the Stratosphere, Mesosphere, Thermosphere and Ionosphere from the ATLAS-1 Shuttle Mission.** Fall Meeting of the American Geophysical Union, San Francisco, California, December 7-11, 1992; Eos, 73(43), 427 (1992). M. R. Torr. (ES51)
60. **Surface Energy and Land-Atmosphere Water Budgets During the CaPE Hydrometeorology Project.** Fall Meeting of the American Geophysical Union, San Francisco, California, December 7-11, 1992; Eos, 73(43), 183 (1992). S. J. Goodman, W. L. Crosson, C. A. Laymon, and C. A. Duchon. (ES44)
61. **Tethered Satellite Current Collection System - How Well Do We Understand It?** Fall Meeting of the American Geophysical Union, San Francisco, California, December 7-11, 1992; Eos, 73(43), 422 (1992). J. D. Winningham, J. Biard, N. Stone, and K. Wright. (ES53)

**Published Abstracts (concluded)**

62. **Thermospheric and Ionospheric Remote Sensing from ATLAS-1 Using the Imaging Spectrometric Observatory.** Fall Meeting of the American Geophysical Union, San Francisco, California, December 7-11, 1992; Eos, 73(43), 429 (1992). D. J. Melendez-Alvira, D. G. Torr, M. R. Torr, J. A. Fennelly, M. F. Morgan, and J. K. Owens. (ES55)
63. **Thermospheric O, N<sub>2</sub>, and T<sub>n</sub> from 732 nm Measurements Made by ISO on ATLAS 1.** Fall Meeting of the American Geophysical Union, San Francisco, California, December 7-11, 1992; Eos, 73(43), 428 (1992). J. A. Fennelly, D. G. Torr, G. A. Germany, and M. R. Torr. (ES51)
64. **Transport and Energization of Ionospheric Plasma.** Fall Meeting of the American Geophysical Union, San Francisco, California, December 7-11, 1992; Eos, 73(43), 471 (1992). Thomas E. Moore and D. C. Delcourt. (ES53)
65. **YOHKOH and Compton Observations of an LDE Event: Reconnection and the Neupert Effect?** 180th Meeting of the American Astronomical Society, Columbus, Ohio, June 7-11, 1992; Bull. AAS, 24(2), 784 (1992). H. S. Hudson, N. Nitta, W. Paciesas, G. Fishman, C. Meegan, and R. Wilson. (ES62)

## **PRESENTATIONS**

- 1. Analysis of Lightning Flash Videos from the Space Shuttle Using Blob and Morphological Techniques. IGARRS 92 Meeting, Houston, Texas, May 26-29, 1992. D. E. Pitts, O. H. Vaughan, Jr., et al. (ES43)**
- 2. Analytical Statistical Tests of the Uniformity of the BATSE Burst Positions. Recent Advances in High Energy Astronomy, Toulouse, France, March 17-20, 1992. M. S. Briggs and C. A. Meegan. (ES62)**
- 3. Angular Distributions of 5 eV Atomic Oxygen Scattered from Solid Surfaces on the LDEF Satellite. Rarefied Gas Dynamics Conference, Vancouver British Columbia, Canada, July 26-31, 1992. J. C. Gregory and P. N. Peters. (ES63)**
- 4. Artificial Data for Testing Helioseismology Algorithms. GONG 1992, Boulder, Colorado, August 9-14, 1992 (to appear in proceedings). R. S. Bogart, F. Hill, R. Toussaint, D. H. Hathaway, and T. L. Duvall, Jr. (ES52)**
- 5. ATLAS-1 and Middle Atmosphere Global Change. World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992 (to appear in proceedings). Marsha R. Torr. (ES51)**
- 6. The ATLAS-1 Mission. World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992 (to appear in proceedings). Marsha R. Torr. (ES51)**
- 7. Attitude Stability of LDEF: Refinement of Results from the Silver Pinhole Camera. Second LDEF Post-Retrieval Symposium, San Diego, California, June 1-5, 1992 (to appear in proceedings). P. N. Peters, P. L. Whitehouse, and J. C. Gregory. (ES63)**
- 8. AXAF VETA-1 Mirror Encircled Energy Measurements and Data Reduction. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). P. Zhao, M. K. Joy, J. J. Kolodziejczak, et al. (ES65)**
- 9. The AXAF VETA Test - An Overview. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). Martin C. Weisskopf. (ES65)**
- 10. BATSE/CGRO Observations of Isolated Pulsar. Los Alamos National Laboratory's Workshop on Isolated Pulsars, Taos, New Mexico, February 23-28, 1992 (to appear in proceedings). R. B. Wilson, M. H. Finger, G. N. Pendleton, G. J. Fishman, C. A. Meegan, W. S. Paciesas. (ES62)**

### **Presentations (continued)**

11. **BATSE/Compton Observations of Gamma-Ray Bursts.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). Gerald J. Fishman. (ES62)
12. **BATSE Observations of Centaurus X-3.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). M. H. Finger, R. B. Wilson, B. A. Harmon, G. J. Fishman, C. A. Meegan, G. N. Pendleton, W. S. Paciesas, et al. (ES62)
13. **BATSE Observations of EXO 2030+375.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). M. T. Stollberg, M. H. Finger, B. A. Harmon, G. N. Pendleton, C. A. Wilson, G. J. Fishman, C. A. Meegan, R. B. Wilson, and W. S. Paciesas. (ES62)
14. **BATSE Observations of Gamma-Ray Bursts in Sun-Referenced Coordinate Systems.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). J. M. Horack, T. M. Koshut, R. S. Mallozzi, M. Stollberg, S. D. Storey, G. J. Fishman, C. A. Meegan, R. B. Wilson, and W. S. Paciesas. (ES62)
15. **BATSE Observations of GRSO834-430.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). C. A. Wilson, M. H. Finger, J. M. Grunsfeld, T. A. Prince, B. A. Harmon, R. B. Wilson, G. J. Fishman, C. A. Meegan, W. S. Paciesas, and G. N. Pendleton. (ES62)
16. **BATSE Observations of Isolated Pulsars and Disk-Fed X-Ray Binaries.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). Robert B. Wilson, G. J. Fishman, M. H. Finger, G. N. Pendleton, T. A. Prince, and D. Chakrabarty. (ES62)
17. **BATSE Observations of the Massive X-Ray Binary 4U1700-377/HD 153919.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). B. C. Rubin, B. A. Harmon, M. H. Finger, J. van Paradijs, M. N. Brock, C. A. Meegan, G. J. Fishman, R. B. Wilson, and W. S. Paciesas. (ES62)
18. **BATSE Observations of a Soft Gamma Ray Repeater (SGR).** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). C. Kouveliotou, G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, T. M. Koshut, J. M. Horack, B. Rubin, and J. van Paradijs. (ES62)
19. **BATSE Spectroscopy of Gamma-Ray Bursts. Recent Advances in High Energy Astronomy,** Toulouse, France, March 17-20, 1992. B. E. Schaefer, B. J. Teegarden, T. L. Cline, G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, G. N. Pendleton, et al. (ES62)

## **Presentations (continued)**

20. **Calibration of the Multi-Spectral Solar Telescope Array Multilayer Mirrors and XUV Filters.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). M. J. Allen, T. D. Willis, C. C. Kankelborg, R. H. O'Neal, D. S. Martinez-Galarce, C. E. DeForest, L. Jackson, J. Lindblom, A.B.C. Walker, Jr., T. W. Barbee, Jr., J. W. Weed, R. B. Hoover, and F. R. Powell. (ES52)
21. **CGRO Timing Analysis: BATSE-Specific Effects.** Los Alamos National Laboratory's Workshop on Isolated Pulsars, Taos, New Mexico, February 23-28, 1992 (to appear in proceedings). R. B. Wilson, M. H. Finger, G. J. Fishman, C. A. Meegan, and W. S. Paciesas. (ES62)
22. **Changes in Chemical and Optical Properties of Thin Film Metal Mirrors on LDEF.** LDEF Materials Results for Spacecraft Applications Conference, Huntsville, Alabama, October 27-28, 1992 (to appear in proceedings). P. N. Peters, J. M. Zwiener, J. C. Gregory, G. Raikar, and D. R. Wilkes. (ES63)
23. **Chromospheric and Coronal Observations with Multilayer Optics.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). A.B.C. Walker, Jr., R. B. Hoover, and T. W. Barbee, Jr. (ES52)
24. **Cloud-to-Ground Lightning Observations Used to Simulate Observations from a Low-Earth Orbiting Satellite.** Ninth International Conference on Atmospheric Electricity, St. Petersburg, Russia, June 15-19, 1992. Dennis Buechler and Richard Blakeslee. (ES43)
25. **Comparison of Measured and Modeled Scattering Parameters for Tropospheric Aerosols.** American Association for Aerosol Research, San Francisco, California, October 12-16, 1992. D. R. Cutten, R. Peuschel, J. Rothermel, A. D. Clarke, and D. A. Bowdle. (ES43)
26. **Comparison of a Physical Plasmaspheric Model (FLIP) with Measured Ionospheric/Plasmaspheric Plasma Composition and Temperature.** Third Huntsville Workshop on Magnetosphere/Ionosphere Plasma Models, Guntersville, Alabama, October 5-8, 1992. Paul D. Craven. (ES53)
27. **Comparison of the Undercooling of Niobium in Drop Tube Experiments.** Eighth European Symposium on Materials and Fluid Sciences in Microgravity, Brussels, Belgium, April 12-16, 1992. W. H. Hofmeister, R. J. Bayuzick, M. B. Robinson, B. Vinet, L. Cortella, J. Comera, and J. J. Favier. (ES75)
28. **Compositional, Strain Contour, and Property Mapping of CdZnTe Boules and Wafers.** 1992 HgCdTe Characterization Workshop, Danvers, Massachusetts, October 15, 1992. D. J. Larson, D. C. Gillies, et al. (ES75)

**Presentations** (continued)

29. Consistency Between SSM/I-Derived Global Moisture Analyses and Estimates of Large-Scale Vertical Motion. Sixth Conference on Satellite Meteorology and Oceanography, Atlanta, Georgia, January 5-10, 1992. Franklin R. Robertson, Charles Cohen, and Diane M. Samuelson. (ES42)
30. Core Plasma in the Magnetosphere. Third Huntsville Workshop on Magnetosphere/Ionosphere Plasma Models, Guntersville, Alabama, October 5-8, 1992. Dennis L. Gallagher. (ES53)
31. Correcting X-Ray Spectra Obtained with the AXAF VETA-1 Mirror Calibration for Pileup, Continuum, Background, and Deadtime. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). G. Chartas, M. K. Joy, J. J. Kolodziejczak, et al. (ES65)
32. Correlated Observations of SCO X-1 Using Ground-Based Optical Data and BATSE Spectroscopic Detectors. Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). B. McNamara, G. Fitzgibbins, G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, B. A. Harmon, B. C. Rubin, and M. H. Finger. (ES62)
33. Crosstalk in Solar Polarization Measurements. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). Ed West and K. S. Balasubramaniam. (ES52)
34. A Data Base Describing Low Gravity Fluids and Materials Processing Experiments. AIAA 30th Aerospace Sciences Meeting, Reno, Nevada, January 6-9, 1992. C. A. Winter and J. Jones. (ES42)
35. DC Bias Modulation Characteristics of Longitudinal KD\*P Modulators. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, January 19-24, 1992 (to appear in proceedings). Ed West and Nathan Wilkins. (ES52)
36. Design and Fabrication of the All-Reflecting H-Lyman Coronagraph/Polarimeter. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). Richard B. Hoover, R. B. Johnson, Silvano Fineschi, A.B.C. Walker, Jr., P. C. Baker, M. Zukic, and J. Kim. (ES52)
37. Detecting X-Rays with an Optical Imaging Chamber. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992. Robert A. Austin and Brian D. Ramsey. (ES65)

### **Presentations** (continued)

38. **Detection of Quasi-Periodic Oscillations (QPO) from Cyg X-1 and GRO J0422+32.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992. C. Kouveliotou, M. H. Finger, G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, T. Minamitani, and Jan van Paradijs. (ES62)
39. **Doppler Measurement of the Solar Meridional Circulation.** GONG 1992: Seismic Investigation of the Sun and Stars, Boulder, Colorado, August 9-14, 1992 (to appear in proceedings). David H. Hathaway. (ES52)
40. **Drizzle Effects on the Turbulence Structure of the Marine Boundary Layer: A Model Sensitivity Study.** 10th Symposium on Turbulence and Diffusion, Portland, Oregon, September 29-October 2, 1992 (to appear in proceedings). Shouping Wang and Q. Wang. (ES42)
41. **Early Results from the ATLAS-1 Shuttle Mission of Relevance to STEP.** 1992 STEP Symposium and COSPAR Colloquium No. 5, Laurel, Maryland, August 24-28, 1992. Marsha R. Torr. (ES51)
42. **Earth Occultation Measurements of Galactic Hard X-Ray/Gamma-Ray Sources: A Survey of BATSE Results.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). B. A. Harmon, C. A. Wilson, M. N. Brock, R. B. Wilson, G. J. Fishman, C. A. Meegan, W. S. Paciesas, G. N. Pendleton, B. C. Rubin, and M. H. Finger. (ES62)
43. **Effects of Location Uncertainties on the Observed Distribution of Bursts Detected by BATSE.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). J. M. Horack, C. A. Meegan, G. J. Fishman, R. B. Wilson, W. S. Paciesas, and A. G. Emslie. (ES62)
44. **Electron-Impact Excitation of Hydrogenic Ions in Dense Plasmas.** 10th International Colloquium on UV and X-Ray Spectroscopy of Astrophysical and Laboratory Plasmas, Berkeley, California, February 3-5, 1992 (to appear in proceedings). Young-Dae Jung. (ES65)
45. **Environmental Effects Consideration: A Case Study - Lessons Learned.** AIAA Fourth International Aerospace Plane Conference, Orlando, Florida, December 1-4, 1992. W. W. Vaughan and B. J. Anderson. (ES43)
46. **Evidence for Dust Contamination of the VETA-1 Mirror Surface.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). J. J. Kolodziejczak, S. L. O'Dell, R. F. Elsner, and M. C. Weisskopf. (ES65)

**Presentations** (continued)

47. **Experimental Results and Numerical Modeling of Solidification During Aircraft High-g Arcs.** AIAA 30th Aerospace Sciences Meeting, Reno, Nevada, January 6-9, 1992. P. A. Curreri, N. Ramachandran, J. C. Jones, and J. P. Downey. (ES75)
48. **An Experimental Study of the Fluid Mechanics Associated with Porous Walls.** AIAA 30th Aerospace Sciences Meeting, Reno, Nevada, January 6-9, 1992. N. Ramachandran, A. Smith, and J. Heaman. (ES71)
49. **Extreme Ultraviolet Filters for 58.4 and 83.4 nm.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992. M. Zukic, D. G. Torr, J. Kim, and M. R. Torr. (ES51)
50. **Fabrication of Grazing Incidence Optics Using Flow Polishing Techniques.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). P. C. Baker, R. B. Hoover, and A.B.C. Walker, Jr. (ES52)
51. **Far Ultraviolet Filters for the ISTP UV Imager.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). M. Zukic, D. G. Torr, J. Kim, J. F. Spann, and M. R. Torr. (ES55)
52. **Fluorescence Measurements of the Thermal Control Coatings on LDEF Experiments S0069 and A0114.** Second LDEF Post-Retrieval Symposium, San Diego, California, June 1-5, 1992 (to appear in proceedings). J. M. Zwiener, R. J. Mell, P. N. Peters, D. R. Wilkes, E. R. Miller, and J. C. Gregory. (ES63)
53. **The Function of the EOSDIS Distributed Active Archive Centers.** AIAA Space Programs and Technologies Conference and Exhibit, Huntsville, Alabama, March 25, 1992. Catherine C. Lapenta. (ES44)
54. **Functional Test and Calibration Plan for the Lightning Imaging Sensor.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992. J. W. Bergstrom, J. W. Jackson, D. E. Simmons, and H. J. Christian. (ES43)
55. **Gamma-Ray Burst Observations by the 3rd Interplanetary Network.** World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992 (to appear in proceedings). K. Hurley, M. Sommer, G. Fishman, J. Laros, and T. Cline. (ES62)

## **Presentations (continued)**

- 56. GLObal Backscatter Experiment (GLOBE) Airborne Pacific Survey Mission: Major Findings and Prospects. International Symposium on Active Sensors, and Non-Synchronous Missions Dedicated to GEWEX, Jouy en Josas, France, June 15-19, 1992. D. A. Bowdle, J. Rothermel, and J. E. Arnold. (ES43)**
- 57. A Global Model of Thunderstorm Electricity. Ninth International Conference on Atmospheric Electricity, St. Petersburg, Russia, June 15-19, 1992. P. B. Geis, R. J. Blakeslee, A. A. Few, E. K. Stansberg, and H. J. Christian. (ES43)**
- 58. Global Observations of Lightning from Space. Ninth International Conference on Atmospheric Electricity, St. Petersburg, Russia, June 15-19, 1992. Hugh J. Christian and Steven J. Goodman. (ES43)**
- 59. Global Temperature Monitoring from Space. 29th Plenary Meeting of COSPAR and World Space Congress '92, Washington, D.C., August 28-September 5, 1992. Roy W. Spencer. (ES43)**
- 60. Granular Instability in Fluidized Beds: A Small-Over-Large Instability. Eighth European Symposium on Materials and Fluid Sciences in Microgravity, Brussels, Belgium, April 12-16, 1992 (to appear in proceedings). David A. Noever. (ES76)**
- 61. Growth of ZnTe by Physical Vapor Transport and Traveling Heater Method. 10th International Conference on Crystal Growth, San Diego, California, August 16-21, 1992. Ching-Hua Su, M. P. Volz, D. C. Gillies, F. R. Szofran, S. L. Lehoczky, M. Dudley, and G.-D. Yao. (ES75)**
- 62. Hardness Ratio Evolution in BATSE/CGRO Data. Recent Advances in High Energy Astronomy, Toulouse, France, March 17-20, 1992. C. Kouveliotou, W. S. Paciesas, G. J. Fishman, C. A. Meegan, and R. B. Wilson. (ES62)**
- 63. On the Heating Mechanism of Coronal Holes. Workshop on Advances in Stellar and Solar Coronal Physics, Palermo, Italy, June 1992 (to appear in proceedings). R. Hammer, R. L. Moore, Z. E. Musielak, and S. T. Suess. (ES52)**
- 64. High Temperature Superconducting Bearing for Rocket Engine Turbo Pumps. World Congress on Superconductivity, Munich, Germany, September 14-18, 1992 (to appear in proceedings). R. Decher, P. N. Peters, R. C. Sisk, E. W. Urban, M. Vlasse, and D. K. Rao. (ES61)**
- 65. High Temporal Resolution Velocity Estimates from the NASA 50 MHz Wind Profiler. AIAA 30th Aerospace Sciences Meeting, Reno, Nevada, January 6-9, 1992. T. L. Wilfong and S. A. Smith. (ES44)**

### **Presentations (continued)**

- 66. Hydrogen Masers for Space. Sixth European Frequency and Time Forum, Noordwijk, The Netherlands, March 15-29, 1992 (to appear in proceedings). R.F.C. Vessot, E. M. Mattison, G. U. Nystrom, I. M. Coyle, R. Decher, S. J. Feltham, G. Busca, S. Starker, and S. Leschiutta. (ES61)**
- 67. Image Analysis of the AXAF VETA-1 X-Ray Mirror. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). M. D. Freeman, J. P. Hughes, L. P. Van Speybroeck, J. W. Bilbro, and M. C. Weisskopf. (ES65)**
- 68. Imaging Schwarzschild Multilayer X-Ray Microscope. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). Richard B. Hoover et al. (ES52)**
- 69. Imaging Solar Flares in Hard X-Rays Using Fourier Telescopes. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). Jonathan W. Campbell, John M. Davis, and A. Gordon Emslie. (ES52)**
- 70. IMF Influence on Low-Energy Plasma Outflow in the Auroral Zone, Polar Cap, and Cusp. Third Huntsville Workshop on Magnetosphere/Ionosphere Plasma Models, Guntersville, Alabama, October 5-8, 1992. B. L. Giles, C. R. Chappell, T. E. Moore, and R. H. Comfort. (ES53)**
- 71. Induced Activation Study of LDEF. Second LDEF Symposium, San Diego, California, June 1-5, 1992 (to appear in proceedings). B. A. Harmon, G. J. Fishman, T. A. Parnell, and C. E. Laird. (ES62)**
- 72. Intensity Distribution of the X-Ray Source for the AXAF VETA-1 Mirror Test. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). P. Zhao, E. M. Kellogg, D. A. Schwartz, Y. Shao, and M. A. Fulton. (ES65)**
- 73. Interaction of Atomic Oxygen with Thin Film and Bulk Copper: An XPS, AES, XRD and Profilometer Study. Second LDEF Post-Retrieval Symposium, San Diego, California, June 1-5, 1992 (to appear in proceedings). G. N. Raikar, J. C. Gregory, L. C. Christl, and P. N. Peters. (ES63)**
- 74. Intercomparison of Observed Cloud-Radiative Forcing. International Radiation Symposium, Tullinn, Estonia, August 3-8, 1992. B.-J. Sohn, F. R. Robertson, and J. Srikishen. (ES42)**

### **Presentations (continued)**

- 75. Interpretation of MODIS-N Airborne Simulator (MAS) Calibration Anomalies Using Coincident High Resolution Interferometer Spectrometer (HIS) Measurements. International Symposium on Spectral Sensing Research, Kauai, Hawaii, November 15-20, 1992. Grant S. Carlson and Gary J. Jedlovec. (ES43)**
- 76. Kinematics of Stars in the Nucleus of M82: The Nuclear Mass. Astronomical Society of the Pacific: Massive Stars, Their Lives in the Interstellar Medium, Madison, Wisconsin, June 23-25, 1992 (to appear in proceedings). D. F. Lester, N. I. Gaffney, and C. M. Telesco. (ES63)**
- 77. Lightning: A View from the Space Shuttle. International Aerospace and Ground Conference on Lightning and Static Electricity, Atlantic City, New Jersey, October 5-8, 1992 (to appear in proceedings). Otha H. Vaughan, Jr. (ES43)**
- 78. Localized Regions of Transverse Ion Acceleration by Lower Hybrid Waves. AGU Chapman Conference on Micro and Meso Scale Phenomena in Space Plasma, Kauai, Hawaii, February 11-21, 1992. P. M. Kintner, J. Vago, R. Arnoldy, C. Pollock, and T. Moore. (ES53)**
- 79. Ly-Alpha Intensity in Coronal Streamers. European Geophysical Society Meeting, Edinburgh, Scotland, April 6-10, 1992. G. Noci, G. Poletto, S. Suess, A.-H. Wang, and S. T. Wu. (ES52)**
- 80. Mars Global Reference Atmosphere Model (Mars-GRAM). MSATT Workshop on the Evolution of the Martian Atmosphere, Kona, Hawaii, June 29-July 1, 1992. C. G. Justus and Bonnie F. James. (ES44)**
- 81. Materials Processing in a Centrifuge-Numerical Modeling of Microgravity Effects. AIAA 30th Aerospace Sciences Meeting, Reno, Nevada, January 6-9, 1992. N. Ramachandran, J. Jones, P. Curreri, and J. Downey. (ES71)**
- 82. Measurement of the Solidification Velocity in an Undercooled Free Falling Droplet. Fourth International Symposium on Experimental Methods for Microgravity Materials Science Research, San Diego, California, March 1-5, 1992 (to appear in proceedings). M. B. Robinson, W. H. Hofmeister, R. J. Bayuzick, and T. J. Rathz. (ES75)**
- 83. Mechanics of Granular Materials at Very Low Effective Stress Levels. ASCE Engineering Mechanics Conference, College Station, Texas, May 24-27, 1992. Nicholas C. Costes, Stein Sture, and David F. McTigue. (ES42)**
- 84. Microflares Observed with UVSP and HXIS. First SOHO Workshop, Annapolis, Maryland, August 25-28, 1992 (to appear in proceedings). Jason G. Porter. (ES52)**

### **Presentations (continued)**

85. **Microgravity Experiments and Numerical Simulations of Rotating Convection in a Hemispherical Layer.** Southeastern Conference on Theoretical and Applied Mechanics, Nashville, Tennessee, April 12-14, 1992. Timothy L. Miller. (ES42)
86. **The Microstrip Proportional Counter Development at MSFC.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). M. A. Fulton, J. J. Kolodziejczak, and B. D. Ramsey. (ES65)
87. **Microstrip Proportional Counter.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). Brian D. Ramsey. (ES65)
88. **Mission Science on the First International Microgravity Laboratory.** World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992. R. S. Snyder and T. Y. Miller. (ES71)
89. **Modeling the Gamma-Ray Background on BATSE.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). B. C. Rubin, B. A. Harmon, M. H. Finger, M. N. Brock, C. A. Meegan, G. J. Fishman, R. B. Wilson, W. S. Paciesas, et al. (ES62)
90. **Modeling Solar Coronal Streamers.** In Proceedings, SOHO Workshop, ESA SP-348, pp. 63-72 (1992) (held Annapolis, Maryland, August 25-28, 1992). S. T. Suess. (ES52)
91. **Molecular Contamination and the Calibration of AXAF.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). R. F. Elsner, S. L. O'Dell, and M. C. Weisskopf. (ES65)
92. **Monitoring the Long-Term Behavior of Active Galactic Nuclei Using BATSE.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). W. S. Paciesas, B. A. Harmon, C. A. Wilson, G. J. Fishman, C. A. Meegan, R. B. Wilson, G. N. Pendleton, and B. C. Rubin. (ES62)
93. **The Multi-Spectral Solar Telescope Array: Initial Results and Future Plans.** SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). A.B.C. Walker, Jr., R. B. Hoover, and T. W. Barbee, Jr. (ES52)
94. **NASP Natural Environment Support and Atmospheric Modeling - Status.** NASP Mid-Term Technology Review, Monterey, California, April 21-24, 1992. Dale L. Johnson and L. Jack Ehrenberger. (ES44)

### **Presentations (continued)**

- 95. Nonlinear Baroclinic Waves with Periodic Forcing. Eighth Southeastern Geophysical Fluid Dynamics Conference, Tallahassee, Florida, March 13-14, 1992. Shih-Hung Chou. (ES42)**
- 96. Nonpotential Magnetic Fields in Solar Active Regions. IAU Colloquium No. 141, Commission 10, Beijing, China, September 6-12, 1992. M. J. Hagyard. (ES52)**
- 97. Observations from the BATSE Experiment on the Compton Gamma Ray Observatory. World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 28-September 5, 1992 (to appear in proceedings). G. J. Fishman. (ES62)**
- 98. Observations of a Hard State Outburst in the GX339-4 System. Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). B. A. Harmon, C. A. Wilson, R. B. Wilson, G. J. Fishman, C. A. Meegan, W. S. Paciesas, G. N. Pendleton, B. C. Rubin, M. H. Finger, and W. A. Wheaton. (ES62)**
- 99. Observations of Vertical Lightning in the Stratosphere. Ninth International Conference on Atmospheric Electricity, St. Petersburg, Russia, June 15-19, 1992. W. L. Boeck, O. H. Vaughan, R. J. Blakeslee, B. Vonnegut, M. Brook, and J. McKune. (ES43)**
- 100. Overview of the First Results from EGRET. Recent Advances in High Energy Astronomy, Toulouse, France, March 17-20, 1992. G. J. Fishman. (ES62)**
- 101. Overview of NASA's Research Activities in the II-VI Area. 1992 U.S. Workshop on the Physics and Chemistry of Mercury Cadmium Telluride and Other IR Materials, Boston, Massachusetts, October 13-15, 1992. Sandor L. Lehoczky and Frank R. Szofran. (ES75)**
- 102. The Performance of a Multistep Fluorescence-Gated Proportional Counter for Hard X-Ray Astronomy. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). K. L. Dietz, B. D. Ramsey, and M. C. Weisskopf. (ES65)**
- 103. A Physical Split Window Technique for the Retrieval of Precipitable Water from Satellite Measurements. Sixth Conference on Satellite Meteorology and Oceanography, Atlanta, Georgia, January 5-10, 1992. Anthony R. Guillory, Gary J. Jedlovec, and Henry E. Fuelberg. (ES43)**

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- 104. Polarimetric Radar Modeling of Mixtures of Precipitation Particles. '92 International Geoscience and Remote Sensing Symposium, Houston, Texas, May 26-29, 1992 (to appear in proceedings). J. Vivekanandan, R. Raghavan, and V. N. Bringi. (ES42)**
- 105. Polarimetry of the HI Lyman  $\alpha$  for Coronal Magnetic Field Diagnostics. 1992 SPIE International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). S. Fineschi, R. B. Hoover, M. Zukic, J. Kim, A.B.C. Walker, Jr., and P. C. Baker. (ES52)**
- 106. Precipitation Remote Sensing Using the Advanced Microwave Precipitation Radiometer. 11th International Conference on Clouds and Precipitation, Montreal, Canada, August 16-22, 1992. Robbie E. Hood, Roy W. Spencer, and Frank J. LaFontaine. (ES43)**
- 107. Predicting Ly- $\alpha$  Intensities in Coronal Streamers. SOHO Workshop, Annapolis, Maryland, August 25-28, 1992 (to appear in proceedings). G. Noci, G. Poletto, S. T. Suess, A.-H. Wang, and S. T. Wu. (ES52)**
- 108. The Prediction of Solar Flares for the Space Exploration Initiative. World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992. John M. Davis. (ES52)**
- 109. Preliminary Angular Correlation Analyses of Gamma-Ray Bursts Detected by BATSE. Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). J. M. Horack, J. Hakkila, G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, G. N. Pendleton, M. N. Brock, C. Kouveliotou, and M. S. Briggs. (ES62)**
- 110. Principal Scientific Uncertainties Related to Global Climate Change. Pittsburgh Coal Conference, Pittsburgh, Pennsylvania, October 12-16, 1992. Roy W. Spencer. (ES43)**
- 111. Process Optimization for 123 and Bi-Based Superconductors. Third International Conference and Exhibition, World Congress on Superconductivity, Munich, Germany, September 14-18, 1992. M. Vlasse, J. Golben, and R. Decher. (ES74)**
- 112. Progress in High Accuracy Gamma-Ray Burst Localization with Ulysses. Recent Advances in High Energy Astronomy, Toulouse, France, March 17-20, 1992. K. Hurley, M. Sommer, M. Boer, J. Laros, G. Fishman, and T. Cline. (ES62)**

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113. **On the Question of Predictability in Numerical Modeling of Baroclinic Laboratory Experiments. Eighth Southeastern Geophysical Fluid Dynamics Conference, Tallahassee, Florida, March 13-14, 1992. Timothy L. Miller. (ES42)**
114. **Radiation and Activation Measurements Performed on LDEF. World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992 (to appear in proceedings). E. V. Benton, I. Csige, A. L. Frank, E. R. Benton, T. A. Parnell, T. Armstrong, J. Derrickson, A. Harmon, G. Fishman, and J. Watts. (ES62)**
115. **Rarefied Solids: How Big is a Martian Fractal? Sixth Annual Alabama Research Conference, Auburn, Alabama, October 6-7, 1992. David A. Noever. (ES76)**
116. **The Relationship Between Coronal and Interplanetary Magnetic Fields. World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992. Steven T. Suess. (ES52)**
117. **Relationship Between Magnetic Field Evolution and Flaring Sites in AR 6659 on June 1991. World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992. B. Schmieder, P. Demoulin, M. J. Hagyard, M. E. Machado, Ai Guoxiang, Fu Qijin, Shen Long Xiang, Li Zhi Kai, and B. Kalman. (ES52)**
118. **The Role of SST Distributions in Modulating PBL Structure and Surface Energy Fluxes During ERICA: Numerical Simulations. Fifth Conference on Mesoscale Processes, Atlanta, Georgia, January 5-10, 1992. William M. Lapenta. (ES42)**
119. **The Role of the Sea-Surface Temperature Distribution on Explosive Cyclogenesis Observed During Erica. Cyclone Workshop, Val-Morin, Quebec, Canada, October 12-16, 1992. William M. Lapenta, Donald J. Perkey, Carl W. Kreitzberg, and Franklin R. Robertson. (ES42)**
120. **Science Data Processing in the Mission to Planet Earth Era. AIAA Space Programs and Technologies Conference, Huntsville, Alabama, March 25, 1992. H. Michael Goodman. (ES44)**
121. **Science Overview for the First United States Microgravity Laboratory. University of Tennessee Space Institute, Tullahoma, Tennessee, April 1, 1992. Donald O. Frazier. (ES74)**

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123. **A Search for Untriggered Gamma-Ray Bursts in the BATSE Data.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). B. C. Rubin, J. M. Horack, M. N. Brock, C. A. Meegan, G. J. Fishman, R. B. Wilson, and W. S. Paciesas. (ES62)
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125. **Second- and Third-Harmonic Generation by Reflection from Langmuir-Blodgett Film of New Organic Material: N-Alkyl and N, N-Dialkyl Derivatives of 4-Methyl-6-Nitro-2-Quinolinamines with Sec-Butyl as Substituent.** IQEC '92, Vienna, Austria, June 14-19, 1992 (to appear in proceedings). R. Srinivasan, P. Venkateswarlu, K. X. He, H. W. Hyde, B. G. Penn, and D. O. Frazier. (ES74)
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127. **A Simple Analytic Method to Estimate a Thunderstorm's Contribution to the Global Electric Circuit.** Ninth International Conference on Atmospheric Electricity, St. Petersburg, Russia, June 15-19, 1992. K. T. Driscoll and R. J. Blakeslee. (ES43)
128. **Small-Scale Field Experiment of Land Surface Atmosphere Interactions.** SPACE 92, Third International Conference on Engineering, Construction, and Operations in Space, Denver, Colorado, May 31-June 4, 1992 (to appear in proceedings). N. C. Costes, C. A. Laymon, and E. J. Macari. (ES42)
129. **SOURCE: The Solar Ultraviolet Radiation and Correlative Emissions Mission.** New Developments and Applications in Optical Radiometry IV (NEWRAD '92), Baltimore, Maryland, June 1992 (to appear in proceedings). P. L. Smith, R. L. Moore, M. R. Torr, et al. (ES52)

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130. **The Spatial Distribution of Gamma-Ray Bursts Observed by BATSE.** Compton Observatory Symposium, St. Louis, Missouri, October 15-17, 1992 (to appear in proceedings). C. A. Meegan, G. J. Fishman, R. B. Wilson, J. M. Horack, M. N. Brock, W. S. Paciesas, G. N. Pendleton, and C. Kouveliotou. (ES62)
131. **Statistical Analysis of Nucleation Temperatures from Two Containerless Processing Methods.** Fourth International Symposium on Experimental Methods for Microgravity Materials Science Research, San Diego, California, March 1-5, 1992 (to appear in proceedings). Craig Morton, W. H. Hofmeister, R. J. Bayuzick, and M. B. Robinson. (ES75)
132. **Structure, Propagation and Growth Rates of Transient Anomalies in the Tropospheric Temperature Field as Depicted by MSU2.** Sixth Conference on Satellite Meteorology and Oceanography, Atlanta, Georgia, January 5-10, 1992. Franklin R. Robertson and John R. Christy. (ES42)
133. **Studies of Hard X-Ray Source Variability Using BATSE.** Recent Advances in High Energy Astronomy, Toulouse, France, March 17-20, 1992. W. S. Paciesas, R. S. Mallozzi, G. N. Pendleton, B. A. Harmon, M. H. Finger, G. J. Fishman, C. A. Meegan, R. B. Wilson, and B. C. Rubin. (ES62)
134. **A Study on the Period Distribution of Magnetic Cataclysmic Variables.** Astronomical Society of Australia, August 1992. K. Wu and D. T. Wickramasinghe. (ES65)
135. **Studying Flare Accelerated Electrons with BATSE.** World Space Congress '92 and 29th Plenary Meeting of COSPAR, Washington, D.C., August 30-September 5, 1992 (to appear in proceedings). R. A. Schwartz, G. J. Fishman, C. A. Meegan, R. B. Wilson, and W. S. Paciesas. (ES62)
136. **Thermal Remote Sensing in Landscape Ecology: A Powerful Tool in the Characterization of Landscapes on a Functional Basis.** Ecological Society of American and American Institute of Biological Sciences, Honolulu, Hawaii, August 8-14, 1992. Jeffrey C. Luvall, James Kay, and Eric Schneider. (ES43)
137. **Thermal Remote Sensing in Landscape Ecology: A Powerful Tool in the Characterization of Landscapes on a Functional Basis.** Seventh Annual U.S. Landscape Ecology Symposium, Corvallis, Oregon, April 8-12, 1992. Jeffrey C. Luvall, R. Holbo, J. Kay, and E. Schneider. (ES43)
138. **Thermal Remote Sensing as a Tool for Categorizing Landscapes in Terms of Their Ecological Development.** Seventh Annual U.S. Landscape Ecology Symposium, Corvallis, Oregon, April 8-12, 1992. Jeffrey Luvall, E. Schneider, and J. Kay. (ES43)

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139. **Three-Dimensional Ionospheric Plasma Circulation. Third Huntsville Workshop on Magnetosphere/Ionosphere Plasma Models, Guntersville, Alabama, October 5-8, 1992. Mark Loranc, R. A. Heelis, W. R. Coley, and M. R. Hairston. (ES53)**
140. **Transport Rate and Epitaxial Growth of  $\text{Hg}_{1-x}\text{Zn}_x\text{Te}$  by Chemical Vapor Transport in a Closed Ampoule. 10th International Conference on Crystal Growth, San Diego, California, August 16-21, 1992. Yi-Gao Sha, C.-H. Su, M. P. Volz, D. C. Gillies, S. L. Lehoczky, and F. R. Szofran. (ES75)**
141. **Turbulence Indicators for Space Shuttle Launches. AIAA 30th Aerospace Sciences Meeting, Reno, Nevada, January 6-9, 1992. Michael Susko. (ES44)**
142. **Ultra High Resolution Images of the Solar Chromosphere and Corona Using Coordinated Rocket and Balloon Observations. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). A.B.C. Walker, Jr., J. G. Timothy, R. B. Hoover, and T. W. Barbee, Jr. (ES52)**
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144. **WetNet: A Status Report. AMS Conference on Interactive Information and Processing Systems and Meteorology, Oceanography, and Hydrology, Atlanta, Georgia, January 15, 1992. M. Smith, C. V. LaFontaine, F. J. LaFontaine, H. Michael Goodman, D. Moss, B. Goodman, K. Dengel, and J. T. Young (ES44)**
145. **X-Ray Evidence for Particulate Contamination on the AXAF VETA-1 Mirrors. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). S. L. O'Dell, R. F. Elsner, J. J. Kolodziejczak, and M. C. Weisskopf. (ES65)**
146. **The X-Ray Reflectivity of AXAF VETA-1 Optics. SPIE 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992 (to appear in proceedings). E. M. Kellogg, J. P. Hughes, L. P. Van Speybroeck, P. Zhao, M. C. Weisskopf, R. F. Elsner, and S. L. O'Dell. (ES65)**

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1. Geometrically Thin, Hot Accretion Disks: Topology of the Thermal Equilibrium Curves. No. 92-101, January 1992. (PUBLISHED; see section on OPEN LITERATURE.) Masaaki Kusunose and Shin Mineshige. (ES65)
2. Electron-Impact Excitation of Hydrogenic Ions in Dense Plasmas. No. 92-102, February 1992, to appear in Proceedings, 10th International Colloquium on UV and X-Ray Spectroscopy of Astrophysical and Laboratory Plasmas (held Berkeley, California, February 3-5, 1992). Young-Dae Jung. (ES65)
3. A Simple Correction for the Born Approximation for Electron Impact Excitation of Hydrogenic Ions. No. 92-103, March 1992. (PUBLISHED; see section on OPEN LITERATURE.) Young-Dae Jung. (ES65)
4. Papers to Appear in Proceedings of: Solar Wind Seven. No. 92-104, April 1992. (PUBLISHED; see section on OPEN LITERATURE.) A.-H. Wang, S. T. Wu, S. T. Suess, G. Poletto, R. L. Moore, Z. E. Musielak, C.-H. An, and S. Nerney. (ES52)
5. A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. No. 92-105, April 1992. (PUBLISHED; see section on OPEN LITERATURE.) R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, and C.-H. An. (ES52)
6. Imaging Solar Flares in Hard X-Rays Using Fourier Telescopes. No. 92-106, June 1992. (PUBLISHED; see section on OPEN LITERATURE.) Jonathan W. Campbell, John M. Davis, and A. Gordon Emslie. (ES52)
7. Measurement of p-Mode Energy Propagation in the Quiet Solar Photosphere. No. 92-107, June 1992, submitted to The Astrophysical Journal. J. M. Fontenla, D. Rabin, D. H. Hathaway, and R. L. Moore. (ES52)
8. Synchrotron Emission from a Cosmological Jet as a Model of Gamma-Ray Bursts. No. 92-108, June 1992. (PUBLISHED; see section on OPEN LITERATURE.) Jerome J. Brainerd. (ES65)
9. Imaging the Sun in Hard X-Rays Using Fourier Telescopes. No. 92-109, July 1992, A Dissertation. Jonathan W. Campbell. (ES52)
10. Numerical Modeling of Crystal Growth on a Centrifuge for Unstable Natural Convection Configurations. No. 92-110, August 1992, to appear in Journal of Crystal Growth. N. Ramachandran, J. P. Downey, P. A. Curreri, and J. C. Jones. (ES71)

### **SSL Preprints (continued)**

11. **A Two-Dimensional MHD Global Coronal Model: Steady-State Streamers.** No. 92-111, August 1992, submitted to Solar Physics. A.-H. Wang, S. T. Wu, S. T. Suess, and G. Poletto. (ES52)
12. **Temporal Variations in the Termination Shock Distance.** No. 92-112, August 1992, submitted to Journal of Geophysical Research. S. T. Suess. (ES52)
13. **Evidence for a Sub-Millisecond Structure in a Gamma Ray Burst Observed by BATSE.** No. 92-113. (PUBLISHED; see section on OPEN LITERATURE.) P. N. Bhat, G. J. Fishman, C. A. Meegan, R. B. Wilson, M. N. Brock, and W. S. Paciesas. (ES62)
14. **Numerical Modeling of Melt Velocity and Thermal Distributions During Aircraft High-Gravity Arcs.** No. 92-114, August 1992, to appear in Journal of Crystal Growth. P. A. Curreri, N. Ramachandran, J. P. Downey, and J. C. Jones. (ES75)
15. **Detecting X-Rays with an Optical Imaging Chamber.** No. 92-115, August 1992, presented SPIE's 1992 International Symposium on Optical Applied Science and Engineering, San Diego, California, July 19-24, 1992. Robert A. Austin and Brian D. Ramsey. (ES65)
16. **The Microstrip Proportional Counter.** No. 92-116, August 1992. (PUBLISHED; see section on OPEN LITERATURE.) Brian D. Ramsey. (ES65)
17. **Performance of a Multistep Fluorescence-Gated Proportional Counter for Hard X-Ray Astronomy.** No. 92-117, August 1992,. (PUBLISHED; see section on OPEN LITERATURE.) K. L. Dietz, B. D. Ramsey, and M. C. Weisskopf. (ES65)
18. **Microstrip Proportional Counter Development at MSFC.** No. 92-118, August 1992. (PUBLISHED; see section on OPEN LITERATURE.) M. A. Fulton, J. J. Kolodziejczak, and B. D. Ramsey. (ES65)
19. **Magnetic Field Changes Associated with a Sub-Flare and Surge.** No. 92-119, October 1992, to appear in Solar Physics. M. J. Hagyard, E. A. West, and J. E. Smith. (ES52)
20. **Interactive Flare Sites Within an Active Region Complex.** No. 92-120, October 1992, to appear in Solar Physics. G. Poletto, G. A. Gary, and M. E. Machado. (ES52)

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- 21. Design and Fabrication of the All-Reflecting H-Lyman  $\alpha$  Coronagraph/Polarimeter. No. 92-121, October 1992, to appear in proceedings, SPIE's 1992 Symposium on Optical Applied Science and Engineering, held San Diego, California, July 19-24, 1992. R. B. Hoover, R. B. Johnson, S. Fineschi, A.B.C. Walker, Jr., P. C. Baker, M. Zukic, and J. Kim. (ES52)**
- 22. Chromospheric and Coronal Observations with Multilayer Optics. No. 92-122, October 1992, to appear in proceedings, SPIE's 1992 Symposium on Optical Applied Science and Engineering, held San Diego, California, July 19-24, 1992. A.B.C. Walker, Jr., R. B. Hoover, and T. W. Barbee, Jr., (ES52)**
- 23. The Multi-Spectral Solar Telescope Array: Initial Results and Future Plans. No. 92-123, October 1992, to appear in proceedings, SPIE's 1992 Symposium on Optical Applied Science and Engineering, held San Diego, California, July 19-24, 1992. A.B.C. Walker, Jr., R. B. Hoover, and T. W. Barbee, Jr. (ES52)**
- 24. Imaging Schwarzschild Multilayer X-Ray Microscope. No. 92-124, December 1992, to appear in proceedings, SPIE's 1992 Symposium on Optical Applied Science and Engineering, held San Diego, California, July 19-24, 1992. R. B. Hoover, P. C. Baker, D. L. Shealy, D. B. Gore, A.B.C. Walker, Jr., T. W. Barbee, Jr., and T. Kerstetter. (ES52)**
- 25. Ultrahigh Resolution Photographic Films for X-Ray/EUV/FUV Astronomy. No. 92-125, December 1992, to appear in proceedings, SPIE's 1992 Symposium on Optical Applied Science and Engineering, held San Diego, California, July 19-24, 1992. R. B. Hoover, A.B.C. Walker, Jr., C. E. DeForest, R. Watts, and C. Tarrio. (ES52)**
- 26. A Mechanism for Bulk Energization in the Impulsive Phase of Solar Flares: MHD Turbulent Cascade. No. 92-126, December 1992, submitted to The Astrophysical Journal. T. N. LaRosa and R. L. Moore. (ES52)**



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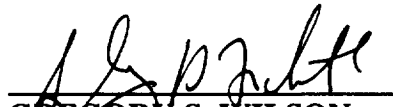
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**Compiled By**

**Tauna W. Moorehead**

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